

IN THE CLAIMS

Please amend the claims as follows:

Claim 1 (Currently Amended): A process for preparing a catalyst structure, comprising:

forming a layer of a catalytic material on a surface of a substrate; and

forming the catalyst structure by separating the layer of the catalytic material into droplet-shaped bodies of the catalytic material adhered to the substrate;

wherein:

the surface of the substrate ~~comprises a material having~~ has a surface tension lower than a surface tension of the layer of the catalytic material when the layer of the catalytic material is formed on the surface of the substrate;

the catalytic material is a material suitable for catalyzing formation of carbon nanotubes or carbon nanofibers; ~~and~~

~~forming~~ the layer of the catalytic material ~~comprises forming multiple separate layers~~ is formed by making a sequence of deposits of the catalytic material ~~over a period of time on~~ to the surface of the substrate separated by waiting phases under a vacuum or in a controlled atmosphere; and

the layer of the catalytic material is in the form of a film.

Claim 2 (Currently Amended): The process according to claim 1, wherein ~~separating~~ the layer of the catalytic material is separated into droplet-shaped bodies ~~comprises by~~ applying a heat treatment.

Claim 3 (Withdrawn – Currently Amended): The process according to claim 1, wherein ~~separating~~ the layer of the catalytic material is separated into droplet-shaped bodies ~~comprises by~~ applying a hydrogen plasma treatment at low temperature.

Claims 4-5 (Cancelled).

Claim 6 (Currently Amended): The process according to claim 1, wherein the catalytic material ~~comprises a metal or a semiconductor~~ is nickel, iron or cobalt.

Claim 7 (Currently Amended): The process according to claim 1, wherein ~~forming~~ the layer of the catalytic material ~~comprises forming the layer~~ is formed under partial pressure of oxygen.

Claim 8 (Currently Amended): A process for growing carbon nanotubes or carbon nanofibers, comprising:

preparing a catalyst structure by the method according to claim 1; and
growing carbon nanotubes or carbon nanofibers on the catalyst structure.

Claim 9 (Currently Amended): The process according to claim 8, wherein ~~growing~~ the carbon nanotubes or carbon nanofibers ~~comprises growing carbon nanotubes or nanofibers~~ are grown by chemical vapor phase deposition.

Claim 10 (Withdrawn – Currently Amended): A process for producing substrate having a surface with controlled roughness, ~~comprising~~ comprising:
preparing a catalyst structure by the method according to claim 1;

forming an oxide layer on the catalyst structure; and
polishing the resulting structure.

Claim 11 (Cancelled).

Claim 12 (Withdrawn – Currently Amended): A process for producing a substrate including a surface with a metal/oxide mix, comprising:

preparing a catalyst structure by the method according to claim 1;
forming an oxide layer on the catalyst structure; and
polishing step the resulting structure;
wherein the catalytic material ~~comprises~~ is a metal.

Claim 13 (Currently Amended): A process for preparing a catalyst structure, comprising:

forming a thermal or diffusion barrier layer on a substrate;
forming a layer of a catalytic material on a surface of the barrier layer; and
forming the catalyst structure by separating the layer of the catalytic material into
droplet-shaped bodies of the catalytic material adhered to the barrier layer;

wherein:

the surface of the barrier layer ~~comprises a material having~~ has a surface tension lower than a surface tension of the layer of the catalytic material when the layer of the catalytic material is formed on the surface of the barrier layer;

the catalytic material is a material suitable for catalyzing formation of carbon nanotubes or carbon nanofibers; ~~and~~

~~forming~~ the layer of the catalytic material ~~comprises forming multiple separate layers~~
is formed by making a sequence of deposits of the catalytic material over a period of time on
to the surface of the barrier layer separated by waiting phases under a vacuum or in a
controlled atmosphere; and

the layer of the catalytic material is in the form of a film.

Claim 14 (Currently Amended): The process according to claim 13, wherein ~~forming~~
the layer of the catalytic material ~~comprises~~ is formed by applying a heat treatment or
applying a hydrogen plasma treatment at low temperature.

Claim 15 (Currently Amended): The process according to claim 13, wherein ~~forming~~
the layer of the catalytic material ~~comprises forming the layer~~ is formed under partial
pressure of oxygen.

Claim 16 (Currently Amended): A process for growing carbon nanotubes or carbon
nanofibers, comprising:

preparing a catalyst structure by the method according to claim 13; and
growing carbon nanotubes or carbon nanofibers on the catalyst structure.

Claim 17 (Currently Amended): The process according to claim 16, wherein ~~growing~~
the carbon nanotubes or carbon nanofibers ~~comprises growing carbon nanotubes or~~
~~nanofibers~~ are grown by chemical vapor phase deposition.

Claim 18 (Withdrawn): A process for producing a substrate having a surface with a controlled roughness, comprising preparing a catalyst structure by the method according to claim 13;

forming an oxide layer on the catalyst structure; and
polishing the resulting structure.

Claim 19 (Cancelled).

Claim 20 (Withdrawn): A process for producing a substrate having a surface including a metal/oxide mix, comprising:

preparing a catalyst structure by the method according to claim 13;
forming an oxide layer on the catalyst structure; and
polishing the resulting structure;
wherein the catalytic material comprises a metal.

Claim 21 (Currently Amended): A process for preparing a catalyst structure, comprising:

forming a layer of a catalytic material on a surface of a substrate; and
forming the catalyst structure by separating the layer of the catalytic material into droplet-shaped bodies of the catalytic material adhered to the substrate;
wherein:
the surface of the substrate comprises a material that does not react-interact with the layer of the catalytic material when the layer of the catalytic material is formed on the surface of the substrate;

the catalytic material is a material suitable for catalyzing formation of carbon nanotubes or carbon nanofibers; ~~and~~

~~forming the layer of the catalytic material comprises forming multiple separate layers~~
is formed by making a sequence of deposits of the catalytic material over a period of time on
to the surface of the substrate separated by waiting phases under a vacuum or in a controlled
atmosphere; and

the layer of the catalytic material is in the form of a film.

Claim 22 (Cancelled).

Claim 23 (Currently Amended): The process according to claim 13, wherein the catalytic material ~~comprises~~ is a metal or a semiconductor.

Claim 24 (Currently Amended): The process according to claim 21, wherein the catalytic material ~~comprises a metal or a semiconductor~~ is nickel, iron or cobalt.

Claim 25 (Currently Amended): The process according to claim 13, wherein the barrier layer ~~comprises~~ is a TiN layer or an oxide layer.